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CENTRAL INTELLIGENCE AGENCY

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[REDACTED] are attached regarding "the plan for an improved Soviet Zone antifriction bearing supply" dated 7 December 1948 and established by the Fraureuth (W 51/K 24) Plant for Antifriction Bearings, VVB(Z) for Machine Tools and Tools (WZW).

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Comment:

1. The Soviet Zone requirements of antifriction bearings are indicated in this report as 533,022 pieces below the figure estimated in a previous report\*, to which this is a supplement. The report furnishes more exact specifications on Soviet Zone antifriction bearing requirements by listing 10 types and three different sizes (72 mm, 80 to 200 mm and 215 to 400 mm outside diameter). The Soviet Zone monthly requirements are 670,000 pieces but the actual output is, at best, 160,000 pieces (24 percent of the requirements) produced in Soviet Corporation plants.

An additional production \*\* of 306,000 pieces of antifriction bearings is scheduled to be attained by establishing additional machinery in the Berlin (W 13/Z 75), Fraureuth and Ronneburg (W 51/K 16) Antifriction Bearing plants. The Thuringia Gerdan Shaft Plant in Stadtilm (W 51/J 34) is not considered in this schedule. The Thuringia plant is assigned to the IFA VVB (Z) with the plant number 33/267/1004. The North German Ball Bearing Plant at 44/46 Rittergutstrasse in Berlin-Lichtenberg is a zonally-controlled plant assigned to the VVB (Z) WZW (machine tools and tools) with the plant number 32/987/1001. The Fraureuth Antifriction Bearing Plant (the former Thuringia Iressholz Company) is also assigned to the VVB (Z) WZW with the plant number 38/271/1001. However, the Ronneburg Antifriction Bearing and Die-Casting Plant (formerly Nietzsche & Co. Albert Luedtke) is a state-controlled plant of Thuringia and is assigned to the VVB (L) Maschinen-Elektro-Ost (machines-electric products, east) with the plant number 29/269/1102.

Even when this production expansion program is realized, which

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which is not expected before the beginning of 1950 according to the "list of schedules" of this report, the Soviet Zone of Germany still has to import 48 percent of its antifriction bearing requirements. The import needs will probably be still higher as a considerable production increase of the industries is scheduled in the Two Year plan for 1950.

4. The planned industrial expansion will require an investment of DM 14,300,000. It is also noteworthy that the greatest possible amount of needed ball steel is scheduled to be imported from Poland (Baildon Ironworks in Kattowitz). The Baildon Ironworks is a former German special steelworks now under Polish administration.

1 Annex: Photostat in Russian (forwarded to Army).

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Translation of Annex:

Plan for an improved Soviet Zone of Germany Antifriction  
Bearing Supply

This plan is based on the assumption that the monthly production of the two Soviet Corporation plants (LKF Ball Bearing Plant in Leipzig-Boehlitz-Ehrenberg (N 52/E 42) and Gebr. Heller Ball Bearing Plant in Mariental-Schmal-kalden (N 51/H 84)) will approximate 100,000 antifriction bearings, mostly small-type.

List of the actual 1949 antifriction bearing requirements of the Soviet Zone of Germany, including Berlin, divided according to types and diameters:

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Outer diameter	up to 72 mm	80 to 200 mm	215 to 400 mm and more	Total
1. Annular grooved bearings ("Ringnutlager")	4,460,000	570,000	32,000	5,062,000
2. Annular tapered bearings ("Ringschraegelager")	190,000	70,000	8,000	268,000
3. Annular self-aligning bearings ("Ringpendellager")	310,000	300,000	12,000	622,000
4. Annular barrel-shaped roller bearings, (one-sided and two-sided ("Ringfassfoermige Lager")	-	78,000	24,000	100,000
5. Annular cylinder bearings ("Ringzylinderlager")	310,000	310,000	54,000	674,000
6. Annular cylinder bearings ("Ringzylinderlager") (toothed "stachelige")	30,000	1,000	1,000	32,000
7. Annular conical bearings ("Ringkegellager")	290,000	420,000	25,000	735,000
8. Grooved disk bearings with one side action	290,000	90,000	4,000	384,000
9. Grooved disk bearings with double side action	40,000	4,000	1,000	45,000
10. Special anti-friction bearings	80,000	3,000	1,000	84,000
Total:	6,000,000	1,844,000	162,000	8,006,000

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The total requirements are therefore about 3,000,000 pieces (670,000 pieces monthly). The two Soviet Corporation plants supply 15 percent of these requirements. However, the existing machinery of the two Soviet Corporation plants would allow an increase to a monthly output of 160,000 pieces. This would cover about 24 percent of the actual requirements. As this production figure is still not sufficient, it is suggested that an additional production of antifriction bearings in the Zone be started as soon as possible. This new production, as outlined in the following plan, would provide for a monthly output of 306,600 pieces.

<sup>160</sup>  
<sup>166</sup>  
Production Plan

1. Berlin Antifriction Bearing Plant: 200,000 pieces of antifriction bearings up to 72 mm in diameter  
divided into 140,000 pieces of annular grooved bearings  
20,000 pieces of annular self-aligning bearings  
40,000 pieces of annular cylinder bearings  
and an additional production of 40,000 pieces of roller bearings for spinning spindles.
2. Fraureuth Antifriction Bearing Plant: 100,000 pieces of antifriction bearings from 80 to 200 mm in diameter  
divided into 50,000 pieces of annular grooved bearings  
10,000 pieces of annular self-aligning bearings  
25,000 pieces of annular cylinder bearings  
15,000 pieces of grooved disk bearings  
and an additional production of 200 pieces of ground spindles ("Schiffs spindel")
3. Ronneburg Antifriction Bearing Plant: 6,600 pieces of antifriction bearings from 215 to 400 mm in diameter  
divided into 5,900 pieces of annular cylinder bearings  
700 pieces of grooved disk bearings

The production of one-sided and two-sided barrel-shaped roller bearings as well as annular conical bearings is

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production would cover the following percentage of requirements (divided according to diameter groups):

Up to 72 mm in diameter about 40 percent

from 80 to 120 mm in diameter about 53 percent

from 215 to 400 mm in diameter about 50 percent

This planned production combined with the deliveries of the Soviet Corporation plant would cover about 52 percent of the total requirements. The total needs of solid cages ("massive Zellen") (for the bearings) for the plants listed in the plan as well for the Leipzig Soviet Corporation Plant will be supplied by the Fraureuth Antifriction Bearing Plant. Except for two lathes of 250 x 400 mm for annular shapes ("Ringdrehbaenke von 250 x 400 mm") the required machinery is available. The sheet metal cages ("Blechzellen") will be supplied by the VVB(Z) TEWA (association of nationalized plants, zonal plants, for technical iron wares) and the required machinery is available for this. The Mariental-Schmalkalden Soviet Corporation Plant will be assigned to the scheduled production of balls and the Leipzig-Boehlitz-Ohrenberg Soviet Corporation Plant to the scheduled production of rollers.

Required machinery:

- 2 roughing machines up to 80 mm ("Abschruppmaschinen")
- 2 four-spindle automatic machines with 25 mm passage width
- 4 four-spindle automatic machines with 42 mm passage width
- 12 four-spindle automatic machines with 64 mm passage width
- 2 four-spindle automatic machines with 75 mm passage width
- 34 turret lathes with 30 mm passage width
- 1 turret lathe with 82 mm passage width
- 13 pipe-cutting lathes for pipes from 110 to 210 mm in diameter
- 1 automatic sawing machine up to 25 mm in diameter (Irmischer)
- 27 automatic sawing machines up to 120 mm in diameter
- 4 cold saws up to 200 mm in diameter
- 1 cold saw up to 250 mm in diameter
- 123 lathes for annular shapes 200 x 400 mm
- 2 lathes for annular shapes 250 x 400 mm

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- 33 lathes for annular shapes 300 x 400 mm
- 4 surface grinding machines with round table (RFauU 760) (Western Zones)
- 12 surface grinding machines with round table 1,000 mm (Aschersleben Machine Tool Plant)
- 14 surface grinding machines with round table 600 mm
- 18 demagnetizing apparatuses
- 9 surface grinding machines, table size 500 x 200 mm
- 5 grinding machines for a surface of 500 x 200 mm
- 1 vertical grinding bench 300 x 700 mm
- 1 furnace for hardening in salt solution, with electric heating; crucible 300 mm in diameter
- 12 furnaces for hardening in salt solution, with electric heating; crucible 500 mm in diameter
- 6 furnaces for hardening in salt solution, with electric heating; crucible 750 in diameter
- 2 muffle furnaces with gas heating 500 x 400 x 600 mm
- 4 tubs for boiling (soda solution) 1,000 x 1,000 x 800 mm
- 7 tubs for oil cooling 1,000 x 1,000 x 800 mm
- 1 air shaft furnace with inserted container ("Luftschachtlofen mit Einsteckgefässs"), crucible 320 in diameter)
- 23 grinding benches without centering, up to 120 mm
- 20 circular grinding benches 100 x 500 mm - or instead of 16 benches 16 groove grinding machines for inside rings, reversible machines ("umklappbare Maschinen") ARS 0 (Western Zones)
- 3 circular grinding benches 110 x 400 mm
- 25 circular grinding benches 150 x 500 mm
- 12 circular grinding benches with fixtures for grinding radiuses from 150 to 500 mm or instead of 11 benches, 16 groove grinding machines for inside rings ARS 1 (Western Zones)
- 3 circular grinding benches with fixtures for grinding pieces from 400 to 1,000 mm in diameter. or instead of 3 benches, 16 groove grinding machines for inside rings ARS 2 (Western Zones)

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- 2 circular grinding benches 150 x 750 mm
- 5 circular grinding benches 250 x 500 mm
- 67 machines for grinding apertures up to 70 mm (B 7 JUNG)  
or instead of 21 machines, 21 groove grinding  
machines for exterior rings
- IRS 0 (Western Zones)
- 53 machines for grinding apertures up to 150 mm (B 18 JUNG)
- 10 machines for grinding apertures up to 250 mm
- 10 machines for grinding apertures with fixtures for grinding  
radiuses up to 150 mm (B 18 JUNG)
- or 10 groove grinding machines for exterior rings IRS 1  
(Western Zones)
- 6 machines for grinding apertures with fixtures for grinding  
pieces up to 500 mm in diameter.
- or 6 groove grinding machines for exterior rings IRS 2  
(Western Zones)
- 6 groove grinding machines for longitudinal ball bearings  
up to 200 mm reversible machines ("umklappbare Maschinen")
- 2 groove grinding machines for longitudinal ball bearings  
up to 400 mm reversible machines ("umklappbare Maschinen")
- 1 hydraulic surface lapping machine, table size 500 mm
- 3 hydraulic surface lapping machines, table size 300 mm
- 9 eccentric presses 10 tons
- 5 eccentric presses 15 tons
- 1 hand press 5 tons
- 30 polishing benches
- 1 riveting machine up to 3 mm (sic)
- 7 riveting machines up to 2 to 4 mm (sic)
- 2 riveting machines up to 3 to 6 mm (sic)
- 8 lathes with automatic guide spindle 180 x 500 mm
- 5 lathes with automatic guide spindle 180 x 1,000 mm
- 19 lathes with automatic guide spindle 200 x 1,000 mm
- 2 lathes with automatic guide spindle 225 x 1,000 mm
- 1 lathe with automatic guide spindle 300 x 2,000 mm

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- 5 universal milling machines, Til-Duplex 58
- 1 tooth milling bench up to the module 3.5  
("Zahneinfraesbank bis zum Modul 3.5")
- 5 horizontal milling machines, 300 x 800 mm
- 3 vertical milling machines, 200 x 600 mm
- 5 column drilling benches up to 20 mm
- 4 column drilling benches up to 30 mm
- 3 large column drilling machines up to 60 mm
- 7 bench drills up to 10 mm
- 4 shaping machines 400 to 450 mm
- 1 shaping machine 650 mm
- 1 keyway slotting machine ("Keilstosbank"), measurement  
("Stahlmass") 12 x 12
- 1 sawing machine, Til
- 1 universal circular grinding machine, 110 x 500 mm
- 6 universal circular grinding machine, 135 x 1,000 mm
- 5 grinding machines for milling cutters and reamers
- 3 grinding machines for shafts 40 x 40 mm
- 7 grinding benches, disk diameter 200 mm
- 10 grinding benches, disk diameter 300 mm
- 3 rinsing machines for rinsing the antifriction bearings
- 4 compressors 4800 liters per minute
- 3 chipping machines
- 2 transformers 600 kw
- 1 transformer 1,000 kw

Total 842

The following machines already exist:

- 4 lathes with multiple tool posts (Reipert)
- 2 lathes with multiple tool posts
- 2 centered lathes 200 and 225 mm

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- 1 surface grinding machine, table diameter 600 mm
- 1 circular grinding machine 150 mm
- 1 machine for grinding apertures 300 mm
- 2 polishing benches.

The machines for producing solid cages are also available as well as the repair machines and the machines for producing instruments and fixtures. The surface grinding machine RV U 760 as well as the groove grinding machine ARS - IRS, both indicated in the plan, are manufactured only by the Schmalz plant in Offenbach. However, the Kugelfischer Georg Schaeffer & Co, plant in Schweinfurt would deliver 2 groove grinding machines IRS 1, 2 groove grinding machines ARS 1 and one grinding machine for apertures RI 30 totaling 75,000 Mark, if we agree to deliver from our available machinery for the preliminary and finishing grinding of barrel-shaped rollers 6 preliminary grinding machines and 11 finishing grinding machines totaling 255,000 Mark. The difference in value will be offset by supplying small-gauge ball bearings ("schmalzspurige Kugellager") to the Soviet Zone. This deal should be attempted as reversible machines are absolutely required for the production of disk-shaped annular ball bearings. All other reversible machines may be substituted by undercutting lathes. The remaining lathes and grinding benches have still to be installed.

#### Required material:

The following monthly supplies will be needed for the scheduled production:

#### a. Steel for ball bearings

- 96 tons of rod material up to 75 mm in diameter
- 71 tons of pipes 55/35 up to 95/70 mm in diameter
- 120 tons of pipes 104/78 to 149/106 mm in diameter
- 95 tons of pipes 165/115 to 205/150 mm in diameter
- 400 tons of pipes of forged rings, 165 to 430 mm in diameter
- 10 tons of steel for balls and rollers from 6 to 13 mm in diameter
- 73 tons of steel for balls and rollers from 15 to 60 mm in diameter.

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b. Material for sheet metal cages

10 tons of sheet metal for deep-drawing, 0.5 to 2 mm gauge

c. Material for solid cages

112 tons of brass (special cast) in brass bars (special cast), including the present deliveries of the cages to the Leipzig Soviet Corporation Plant.

d. Material for roller bearings for spinning spindles and ground spindles

40 tons of free-cutting steel, 30 mm in diameter

1.5 tons of steel WSMO 80 to 25-15 mm in diameter

4.6 tons of steel 50.11 to 20-80 mm in diameter.

Ball bearing steel is not now produced in sufficient quantities in the Soviet Zone. Attempts must be made to import all needed supplies from Poland. Steel pipes for ball bearings were produced by the Baildon Ironworks in Kattowitz in former times. This plant will probably again supply these products. At present, brass or light metal are used almost exclusively in manufacturing solid cages, as the production of pressed wood ("Pressholz") had to be stopped due to the critical raw material supply. According to the plant about 112 tons of brass will be required monthly to cover the present needs of the DKF Leipzig Ball Bearing Plant and of the Soviet Corporation Plants. As there is little hope that large amounts of brass will be available for a long time to come the production of pressed wood must be resumed. However, this production will depend on the production of "Tegofilm" of the Electro-Chemical Plant in Ammendorf. We were informed that it is possible to resume production of Tegofilm in Ammendorf. The German Economic Commission was informed on these plans.

Required material for conversion and reconstruction projects.

a. Berlin. There is only repair work to be done. The amount of material has to be determined.

b. Fraureuth. The Fraureuth Plant was formed from the former Fraureuth Porcelain Factory before 1944. Only the production shops had been installed up to the end of the war while other installations such as laboratories, cloak rooms, equipped kitchens etc. do not exist. About 1,500 men will be required for the scheduled production. The mentioned installations must be procured and set up in the building parallel to the multiple-story building. The engineering construction department for repair work and the manufacture of fixtures and instruments as well as the production of ground spindles will also be in this building.

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The large concrete building covering an area of 3,600 square meters where the production department will be installed must have daylight illumination. The building must be constructed with prefabricated concrete parts. Plans for conversion and reconstruction projects are attached. The required building material is listed below. Due to the shortage of time only a rough planning could be made which has to be supplemented.

6,963 hollow tiles

825,040 bricks

273.93 tons of lime

370.46 tons of cement

99.0 tons of iron for concrete floors

29.2 tons of iron girders and construction single parts

1.3 tons of iron for tie rods and clamps

500 kg of nails

47 kg of nails for roofing felt

335 cubic meters of sawing material

385 sq meters of slabs (woody fibre)

1,350 sq meters of parquet

20,300 sq meters of roofing felt

20,000 kg of glue

12 tons of gypsum

1,590 sq meters of glass

71,470 pieces of glass stones

1 ton of natural slate

38.75 tons of iron for heating installations

1,180 kg of hoops for drains and pipes

790 sq meters of zinc for drain and sewage pipes

13,670 kg cast iron drain pipes

115 meters ceramic drain pipes, 120<sup>mm</sup>/in diameter

120 meters ceramic drain pipes, 150 mm in diameter

210 meters ceramic drain pipes, 150 mm in diameter

60 meters ceramic drain pipes, 200 mm in diameter

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12 branch pieces 120/120  
 10 branch pieces 150/150  
 25 bents 1/8 120  
 12 bents 1/8 150  
 2,750 kg of leaden supply and drain pipes  
 5,700 kg of galvanized iron pipes  
 130 wash basins, including cranes and hydraulic locks  
 15 rinsing basins and drains  
 36 toilet bowls  
 6 urinals  
 6 bath tubs  
 10 shower baths  
 40,000 meters of electric wire  
 500 switches  
 340 sockets  
  
 c. Ronneburg  
 25 tons of cement  
 25 tons of lime  
 60,000 bricks  
 150 sq meters of wood  
 300 sq meters of glass

The above list contains only the production material and a large part of the building material but not the material needed for the electrical installation in the workshops etc. An estimate regarding the electrical installation cannot be submitted for several weeks as the respective requirements have to be ascertained.

## Financial requirements

(and manufacturing  
 capital)

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- a. Machines, including measuring instruments 6,500,000 Mark
- b. Buildings 2,800,000 Mark
- c. Equipment of the workshops, 5,000,000 Mark  
Transformers, motor vehicles etc.

Required labor:

a. Berlin

70 skilled workmen (lathe hands and locksmiths as fitters)

8 lathe hands for instruments

4 milling cutters for instruments

2 carvers for instruments

2 grinders for circular grinding

4 grinders for instruments

15 locksmiths for instruments

10 locksmiths(fitters)

5 electrical engineers for production

200 trained workmen

470 trained female workers

50 unskilled workmen

80 men for the administration, including chiefs, foremen  
and the men in the wage-paying office

Total

920, in addition men for the current production of small-  
sized ball bearings which would increase this figure to  
970 required labor.

b. Freureuth

160 skilled workmen (lathe hands and locksmiths as fitters)

33 lathe hands for instruments

4 milling cutters for instruments

3 carvers for instruments

10 grinders for circular grinding

5 grinders for instruments

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18 locksmiths for instruments  
35 locksmiths as fitters  
10 electrical engineers for production  
553 trained workmen  
185 trained female workers  
70 unskilled workmen  
83 men for the administration including chiefs, foremen and clerks in the wage-paying office

Total 1,169. In addition, 260 men needed for the current production of solid cages. This would increase the total to 1,429 required labor.

## c. Konneburg

30 skilled workmen (lathe hands and locksmiths as fitters)  
4 lathe hands for instruments  
2 milling cutters for instruments  
1 carver for instruments  
1 grinder for circular grinding  
5 grinders for instruments  
10 locksmiths for instruments  
10 locksmiths as fitters  
3 electrical engineers for production  
1 welder  
214 trained workmen  
35 unskilled workmen  
30 men for the administration, including chiefs, foreman and clerks in the wage-paying office.

Total 346. In addition, 40 men for the current production and the repair of antifriction bearings. This would increase the total to 386 required labor.

A list of schedules can only be made if the machine supply problem is solved. Berlin can probably start

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10 percent of the production on 1 July 1949 and increase production by 10 percent monthly.

Fraureuth cannot start production before 1 January 1950.

Ronneburg can immediately start 3 percent of the production and increase to 6 percent by 1 February 1949. After the lathes have been moved from Fraureuth to Ronneburg and two circular grinding machines as well as two grinding machines for apertures have been delivered production can be increased by 15 percent.

Fraureuth 7 December 1948

VfW, Verband Volkseigener Betriebe  
fuer Herstellung von Werkzeug-  
maschinen und Werkzeugen

(Association of Nationalized Plants  
for the Production of Machine  
Tools and Tools)

Fraureuth Antifriction Bearing  
Plant

Signature.